



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-6692; Directorate Identifier 2016-NE-13-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all Rolls-Royce plc (RR) RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 turbofan engines. This proposed AD was prompted by a report of cracking and material release from an engine upper bifurcation fairing. This proposed AD would require repetitive inspections of the engine upper bifurcation fairing and repairing or replacing any fairing that fails inspection. We are proposing this AD to prevent failure of the engine fire protection system, engine fire, and damage to the airplane.

DATES: We must receive comments on this NPRM by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Fax: 202-493-2251.

For service information identified in this proposed AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://customers.rolls-royce.com/public/rollsroycecare>. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6692; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199; email: wego.wang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2016-6692; Directorate Identifier 2016-NE-13-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this NPRM.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2016-0084, dated April 28, 2016 (referred to hereinafter as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Inspection of in-service Rolls-Royce RB211 Trent 800 engines has identified cracking and/or material release from the upper bifurcation fairing. This fairing hardware mates to the aeroplane thrust reverser upper bifurcation forward fire seal. Both sets of hardware create the engine firewall to isolate the engine compartment fire zone, which is a firewall feature of the aeroplane type design. Damage (missing materials and holes/openings) to the upper bifurcation fairing creates a breach of the engine fire wall, which may decrease the effectiveness of the engine fire detection and suppression systems due to excess fan air entering the engine compartment fire zone. This could delay or prevent the fire detection and suppression system from functioning properly, and can result in an increased risk of prolonged burning, potentially allowing a fire to reach unprotected areas of the engine, strut and wing.

Failure to inspect the engine upper bifurcation fairing as proposed by this AD could result in failure of the engine fire protection system, engine fire, and damage to the airplane.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6692.

Related Service Information

RR has issued Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AJ165, dated March 31, 2016. The NMSB describes procedures for inspecting and, if necessary, repairing or replacing the engine upper bifurcation fairing.

FAA's Determination and Requirements of This Proposed AD

This product has been approved by the aviation authority of the United Kingdom and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design. This NPRM would require repetitive inspections of the engine upper bifurcation fairing and repairing or replacing any fairing that fails inspection.

Costs of Compliance

We estimate that this proposed AD affects 125 engines installed on airplanes of U.S. registry. We estimate that it would take about 3.25 hours to inspect the upper bifurcation fairing do the inspection. We estimate that 5 engine fairings will require repair at 8 hours per engine and that an additional 5 engine fairings will require replacement at 30 hours per engine. We also estimate that materials and parts costs would be \$500 for each engine. The cost for repair or replacement would be about \$5,900 or

\$15,250 respectively. The average labor rate is \$85 per hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$55,681.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Rolls-Royce plc: Docket No. FAA-2016-6692; Directorate Identifier 2016-NE-13-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Rolls-Royce plc (RR) RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 turbofan engines.

(d) Reason

This AD was prompted by a report of cracking and material release from an engine upper bifurcation fairing. We are issuing this AD to prevent failure of the engine fire protection system, engine fire, and damage to the airplane.

(e) Actions and Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) Within 7,500 engine flight hours (EFHs) time since new, or since last inspection, or within 150 flight cycles after the effective date of this AD, whichever occurs later, inspect the engine upper bifurcation fairing for cracks or missing material. Use paragraph (e)(3) of this AD to perform the inspections.

(2) Repeat the inspection required by this AD within every 7,500 EFH time since last inspection.

(3) Inspect the engine upper bifurcation fairing as follows. Refer to Figure 1 of RR Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AJ165, dated March 31, 2016, for guidance on upper bifurcation fairing inspection locations.

(i) Visually inspect upper bifurcation fairing seal face 22, seal support 23, and zone A for any cracks or material loss on the right side.

(A) If fairing seal face 22 is found to have released material, repair or replace the fairing before further flight.

(B) If there is a single crack found on fairing seal face 22, shorter than 6 mm, repair or replace the fairing within 100 engine flight cycles, or at the next shop visit, whichever occurs sooner.

(C) If there is a single crack found on fairing seal face 22, longer than 6 mm, repair or replace the fairing within 15 engine flight cycles or at the next shop visit, whichever occurs sooner.

(D) If there are two or more cracks found on fairing seal face 22, replace the fairing within 15 engine flight cycles or at next shop visit, whichever occurs sooner.

(E) If there is any cracking or material loss found on seal support 23, replace the fairing within 15 engine flight cycles or at next shop visit, whichever occurs sooner.

(ii) If the visual inspection required by paragraph (e)(3)(i) of this AD does not detect any crack, fluorescent penetrant inspect zone A. Refer to AMM TASK 70-20-02, Water Washable Fluorescent Penetrant Inspection (Maintenance Process 213), or OMat 632, high sensitivity fluorescent penetrant inspection, for guidance on fluorescent penetrant inspection.

(A) If a crack shorter than 6 mm is detected, repair or replace the fairing within 100 engine flight cycles, or at the next shop visit, whichever occurs sooner.

(B) If a crack longer than 6 mm is detected, repair or replace the fairing within 15 engine flight cycles or at the next shop visit, whichever occurs sooner.

Definition

For the purpose of this AD, a “shop visit” is defined as induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance does not constitute an engine shop visit.

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(g) Related Information

(1) For more information about this AD, contact Wego Wang, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200

District Avenue, Burlington, MA 01803; phone: 781-238-7134; fax: 781-238-7199;
email: wego.wang@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2016-0084, dated April 28, 2016, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2016-6692.

(3) RR NMSB RB.211-72-AJ165, dated March 31, 2016, can be obtained from RR, using the contact information in paragraph (g)(4) of this proposed AD.

(4) For service information identified in this proposed AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://customers.rolls-royce.com/public/rollsroycecare>.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on July 1, 2016.

Ann C. Mollica,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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